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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/621,029

07/16/2003

Chak Chakir

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03/10/2005

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EXAMINER

HIRUY, ELIAS

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/621,029	CHAKIR, CHAK	
	<b>Examiner</b>	<b>Art Unit</b>	
	Elias B. Hiruy	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Information Disclosure Statement**

1. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 10/20/2003, is attached to the instant Office action.

**Drawings**

2. Figure 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 16, 17, 19-28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al U.S. Patent No. 6,008,603.

In regards to claim 16, the applicant is advised that the following features recited are inherent to a personal computing device:

*“a housing defining an interior of such personal computing device;  
a first memory space oriented within the interior of such personal computing device, suitable for storing program instructions;  
a second memory space oriented within the interior of such personal computing device, suitable for storing data;  
a processor operable connected to the first memory space and to the second memory space, the processor adapted to receive and execute the program instructions of the first memory space and adapted to receive data from and send data to the second memory space;”*

Regarding claims 16, 19, and 30, Jones et al discloses an invention that comprises an electrical device/a cooling device (fan 150) (figure 2, 3, or 5) configured to cool the interior of such personal computing device (PC) (column 1 lines 29-38) that has a pulse width modulation controls (column 5 lines 8-13). Further, the invention shows a system 100 (column 4 lines 14 –17) for selectively controlling the frequency of the pulse width modulation to provide a desired output cooling intensity in responsive to known input signal  $V_{pwm}$  (116). The invention also shows the system including a high frequency pulse width modulation signal module C2 and 138 (figure 2, 3 and 5) adapted to provide frequencies above the audible range of anticipated users of such personal computing device (column 7 lines 63-67 and column 8 lines 1-7); the module including a signal converter 136 (figure 2, 3 and 5) operable connectable to such a known input signal ( $V_{pwm}$ ) and adapted to convert such an input signal to produce a high frequency pulse width modulation output signal (HS gate drive 140 figure 2, 3, and 5) suitable for operating such cooling device (fan 150 figure 2, 3, and 5) at the desired output cooling intensity, wherein the output signal (column 7 lines 63-67 and column 8 lines 1-7) has a

Art Unit: 2837

frequency above the audible range for anticipated users of such a personal computing device.

Regarding claim 17, Jones shows that the cooling device is a fan and the cooling intensity comprises the speed of the fan rotors in order that the speed of fan rotors correspond to such a setting for operation of the device based on the known input signal (Column 3 lines 35-42).

Regarding claim 20, the signal converter comprises a high frequency signal generator adapted to produce a high frequency triangle signal having a frequency above the audible range for anticipated users of the cooling fan 138 (see figure 2,3 and 5 and related discussions). And, a comparator 136 (see figure 2, 3, and 5 and related discussion) module adopted to receive the known input signal (Vpwm) and the high frequency triangle signal and perform a comparison operation on the signals in order to produce the high frequency pulse width modulation output signal suitable for operating the cooling fan at the desired output operational intensity, wherein the output signal has a frequency above the audible range for anticipated users of cooling fan (see column 5 lines 8-21, column 7 lines 63-66, and column 8 lines 1-7).

Regarding claim 21 and 22, Jones shows the input signal as a dc voltage signal for causing the system to provide the desired output operational intensity; also, Jones et al teaches that the input signal as being a low PWM signal (See figure 2, 3, and 5 and related discussions).

Regarding claim 23 and 24, Jones teaches that the frequency has to be above 20Khz. Since there is no upper limit set by Jones invention, it is clear that Jones et al

Art Unit: 2837

set of frequencies has anticipated frequencies that are greater than 25khz (column 8 lines 2-7).

Regarding claim 27, Jones et al teaches how the comparator module comprises comparator module 136 (see figure 2, 3 and 5) adapted to receive the known input signal  $V_{pwm}$  and the triangle signal from the triangle waveform generator. The comparator module 136 further converts the known input signal and the triangle signal by scaling in order to ensure that the ranges of the known input signal and triangle signal are substantially equivalent to facilitate operation of the cooling fan at the desired operational intensity (see column 5 lines 8-15), and it performs a comparison operation on the signals in order to produce the high frequency pulse width modulation output signal suitable for operating the cooling fan at such a desired output operational intensity. The output signal has a frequency above the audible range for anticipated users of the cooling fan (see column 7 lines 63-66, and column 8 lines 1-7).

Regarding claims 25 and 26, Jones et al also discloses how the input signal  $V_{pwm}$  is scaled with respect to the triangle signal to have the high frequency determined by the frequency generator, and the triangle signal is scaled in such a way that the output signal will have the width of the input signal  $V_{pwm}$ .

Regarding claim 28, the signal converter of Jones et al invention comprises an RC circuit (C1 and R3) (figure 2, 3 and 5) for converting the low frequency pulse width modulation signal into a DC voltage signal for causing the system to provide the desired output operational intensity, the DC voltage signal corresponding to the low frequency pulse width modulation signal wherein the signal converter is adapted to convert such a

Art Unit: 2837

DC voltage signal to produce a high frequency pulse width modulation output signal suitable for operating the cooling fan at the desired output operational intensity, wherein the output signal has a frequency above the audible range for anticipated users of the cooling fan (see column 4 lines 63-67, column 7 lines 63-67, and column 8 lines 1-7).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al U.S. Patent No. 6,008,603 as applied to claim 21 above, and further in view of Chang U.S. No 6,309,099.

In paragraph 2 above, it is shown how claim 21 limitations were clearly anticipated by Jones et al teaching.

Jones et al teaching, however, fails to disclose how thermistor can be adapted to detect a temperature and produce a dc voltage signal at a voltage level corresponding to the detected temperature in order to perform such operation of the cooling fan at an operational intensity correlated to the detected temperature.

Chang discloses such a thermistor, which could be used with a fan, to monitor the surrounding environment and output a voltage equivalent to the temperature detected (column 2 lines 16-21).

Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chang apparatus into Jones et al invention for the purpose of determining the temperature of the surrounding environment and using this result to effectively control the cooling fan to prevent over heating of elements.

5. Claims 18 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al U.S. Patent No. 6,008,603 as applied to claims 16 and 30 above, in view of Brown Pub. No. US 2002/0176712 A1.

In paragraph 2 above, it is shown how claims 16 and 30 limitations were clearly anticipated by Jones et al teaching.

Regarding claims 18 and 31, Jones et al teaching, however, fails to disclose how the cooling device could be a blower as opposed to a fan.

Nevertheless, Brown teaches how a cooling device could be a blower (page 3 paragraph 45), in a manner recited in claim 18 and 31.

Accordingly, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to incorporate a blower in the apparatus of Jones et al invention for the purpose of providing a transversal cooling output that is most effective in areas with limited amount of space such as notebook computers.

Regarding claim 32, Jones et al fails to specifically teach how his invention could be utilized in different environments such as the digital video recording as recited in claim 32.



Art Unit: 2837

However, Brown teaches how a cooling device could be utilized in the digital video recording environment (Brown, page 3 paragraph 46).

Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to incorporate Jones et al invention into Brown inventions seeking for cooling device that could maintain a suitable temperature for effective operation of the equipment without the added unwanted noise.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al U.S. Patent No. 6,008,603 as applied to claim 30 above, further in view of Waldo et al Pub. No. US 2003/0165398 A1.

Regarding claim 33, Jones et al fails to specifically teach how his invention could be utilized in different environments such as the medical environment as recited in claim 33.

Waldo, on the other hand, teaches how a cooling device that incorporates a fan or a blower could be used in the medical environment (Waldo, page 5 paragraph 93).

Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to incorporate Jones et al invention into Waldo inventions seeking for cooling device that could maintain a suitable temperature for effective operation of the equipment without the added unwanted noise.

**Remarks**

7. No claim is allowed.

**Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to the attached PTO-892 form.

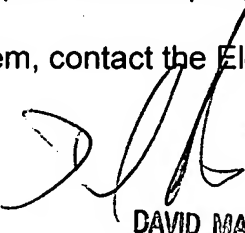
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**Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias B. Hiruy whose telephone number is 571-272-6105. The examiner can normally be reached on 7AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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SUPERVISORY PATENT EXAMINER  
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EH

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